

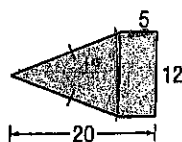
11-4

## Skills Practice

## Areas of Irregular Figures

Find the area of each figure. Round to the nearest tenth if necessary.

1.

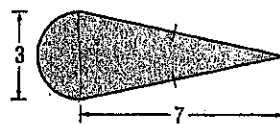


$$5 \cdot 2 + \frac{1}{2} 20 \cdot 12$$

$$60 + 90$$

$$150 \text{ m}^2$$

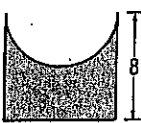
2.



$$\frac{1}{2} 1.5^2 \pi + \frac{1}{2} 7 \cdot 3$$

$$14.0 \text{ m}^2$$

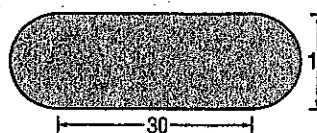
3.



$$8 \cdot 8 - \frac{1}{2} 16 \pi$$

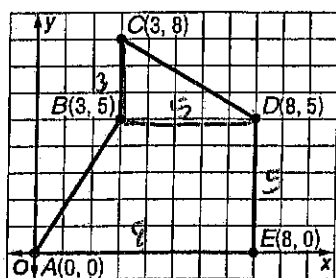
$$64 - 25.1327 \approx 38.9 \text{ m}^2$$

4.



$$30 \cdot 15 + 7.5^2 \pi \approx 626.7 \text{ m}^2$$

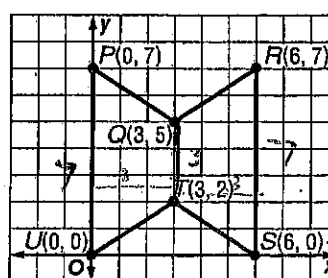
5.



$$\frac{1}{2} 3 \cdot 5 + \frac{1}{2} (5)(5+8)$$

$$7.5 + 32.5 = 40.0 \text{ m}^2$$

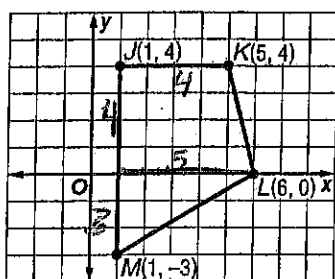
6.



$$\frac{1}{2} 3(7+3) + \frac{1}{2} 3(7+3)$$

$$30 \text{ m}^2$$

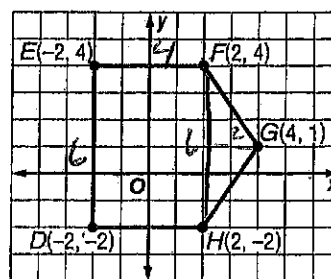
7.



$$\frac{1}{2} 4(4+5) + \frac{1}{2} 5 \cdot 3$$

$$18 + 7.5 = 25.5 \text{ m}^2$$

8.



$$6 \cdot 4 + \frac{1}{2} 6 \cdot 2$$

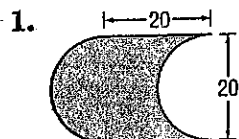
$$24 + 6$$

$$30 \text{ m}^2$$

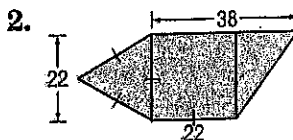
# 11-4 Practice

## Areas of Irregular Figures

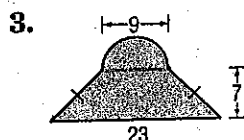
Find the area of each figure. Round to the nearest tenth if necessary.



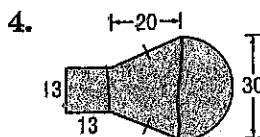
$$20 \cdot 20 = 400 u^2$$



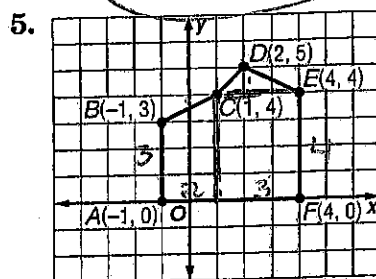
$$\frac{22^2 \sqrt{3}}{4} + 22^2 + \frac{1}{2} 22 \cdot 16 = 869.6 u^2$$



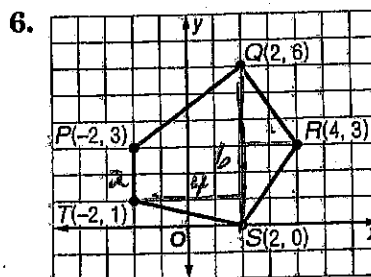
$$\frac{1}{2} 7 (23 + 9) + \frac{1}{2} 4.5^2 \pi = 143.8 u^2$$



$$13^2 + \frac{1}{2} 20 (13 + 30) + \frac{1}{2} 15^2 \pi = 952.4 u^2$$



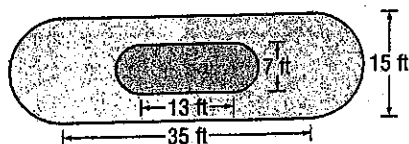
$$\frac{1}{2} 2 (3 + 4) + 3 \cdot 4 + \frac{1}{2} 3 \cdot 1 = 20.5 u^2$$



$$\frac{1}{2} 4 (2 + 6) + \frac{1}{2} 6 \cdot 2 = 22 u^2$$

**LANDSCAPING** For Exercises 7 and 8, use the following information.

One of the displays at a botanical garden is a koi pond with a walkway around it. The figure shows the dimensions of the pond and the walkway.



7. Find the area of the pond to the nearest tenth.

$$13 \cdot 7 + 3.5^2 \pi = 129.5 ft^2$$

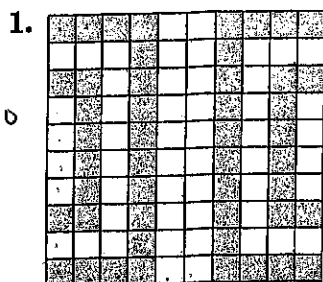
8. Find the area of the walkway to the nearest tenth.

$$(35 \cdot 15 + 7.5^2 \pi) - 129.5 = 572.2 ft^2$$

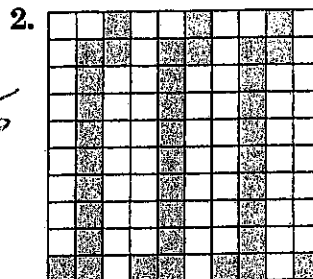
# 11-5 Skills Practice

## Geometric Probability

Find the probability that a point chosen at random lies in the shaded region.

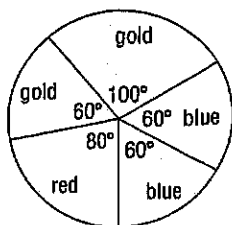


$$P = .48$$



$$P = .37$$

Find the area of the indicated sector. Then find the probability of spinning the color indicated if the diameter of each spinner is 6 inches.



3. red

4. gold

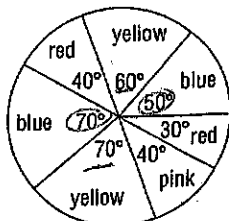
$$A_{\text{circle}} = 9\pi$$

$$\textcircled{3} \frac{80}{360} 9\pi = 6.3\pi^2$$

$$P = \frac{80}{360} = .22$$

$$\textcircled{4} \frac{160}{360} 9\pi = 12.6\pi^2$$

$$P = .44$$



5. blue

6. yellow

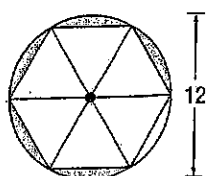
$$\textcircled{5} \frac{120}{360} 9\pi = 9.4\pi^2$$

$$P = .33$$

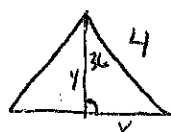
$$\textcircled{6} \frac{130}{360} 9\pi = 10.2\pi^2$$

$$P = .36$$

Find the area of the shaded region. Then find the probability that a point chosen at random is in the shaded region. Assume that all inscribed polygons are regular.



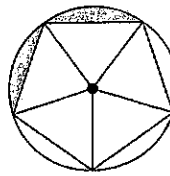
$$P = \frac{16.3}{(36\pi)} = .14$$



$$\sin 36 = \frac{x}{4}$$

$$\cos 36 = \frac{y}{4}$$

8.



$$x = 2.35$$

$$y = 3.24$$

$$2(A_{\text{sector}} - A_{\Delta})$$

$$2\left(\frac{72}{360} 16\pi - \frac{1}{2}(4.70)(3.24)\right)$$

$$10.05 - 7.614$$

$$2(2.439)$$

$$A = 4.942$$

$$P = \frac{4.9}{(16\pi)} = .10$$

